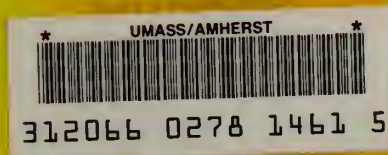
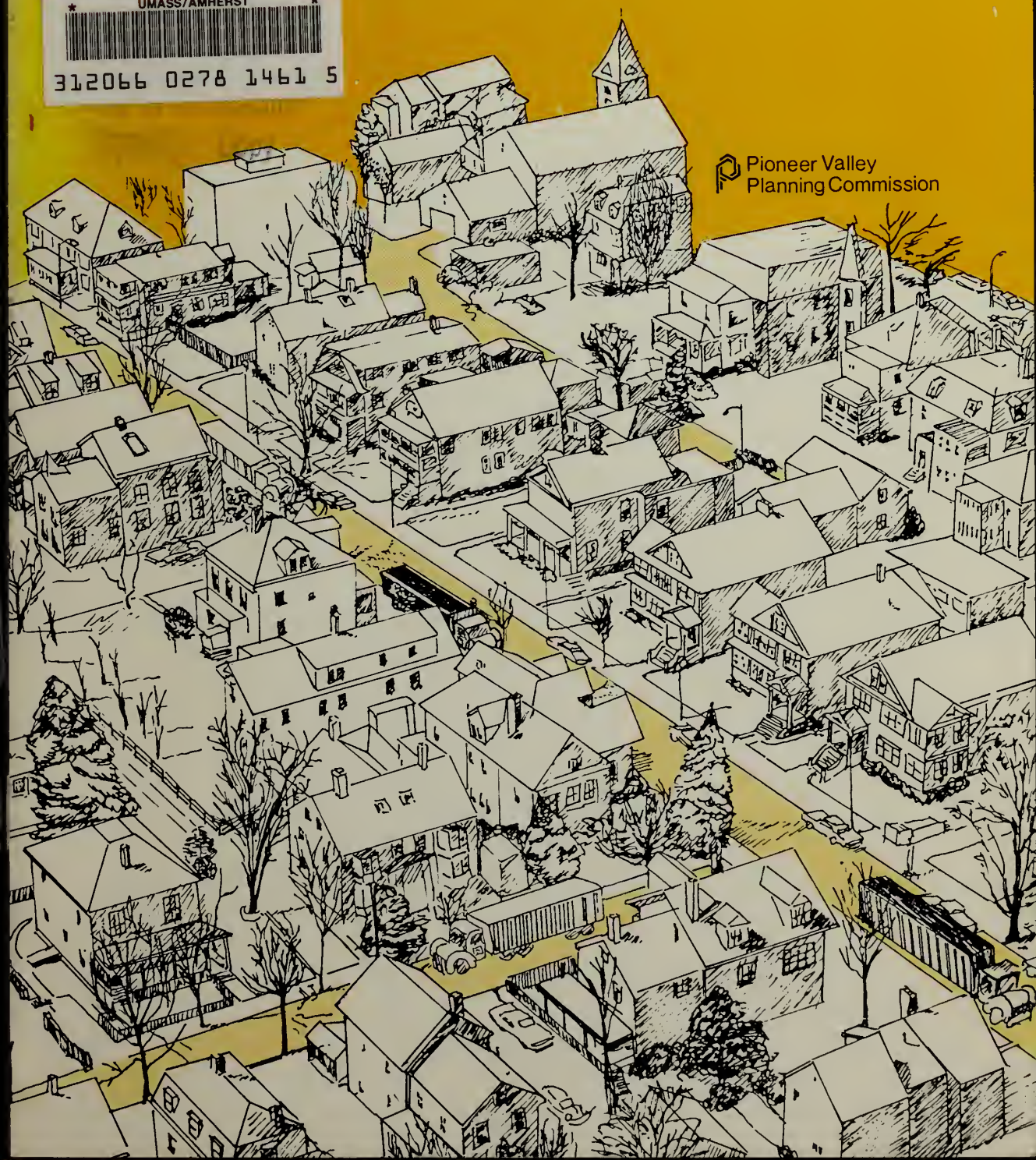


MASS. Y3.LP1:G94 a guide to

Managing Truck Traffic on Local Streets



 Pioneer Valley
Planning Commission





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a guide to

Managing Truck Traffic on Local Streets

prepared by the
Pioneer Valley
Planning Commission
1985

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Managing Truck Traffic on Local Streets

"Too much truck traffic" is a familiar complaint heard in many Pioneer Valley communities. While traffic growth can be a sign of welcome economic expansion, truck traffic can cause problems for residential neighborhoods. Noise, danger to children, and traffic tie-ups--all may result when heavy vehicles regularly use local streets. Heavy trucks can also severely damage roads, causing far more rapid wear than automobile traffic. But in older cities and towns, with their close mix of homes and industry, truck drivers often have no choice but to use local streets, at least for a portion of their trip.



Even in areas with relatively light truck traffic, industrial expansion or new development may eventually create traffic problems. This is particularly true of older communities experiencing revitalization. For example, in established mixed-use neighborhoods, the streets tend to be narrow and corners are tight. Trucks must perform difficult maneuvers, delaying local traffic. Further, housing units tend to be close to the road, where residents will be most affected by truck noise. Yet in many Pioneer Valley towns and cities, these older neighborhoods are among those best suited for redevelopment. Typically, underutilized buildings are available and utility and municipal services are already in place.

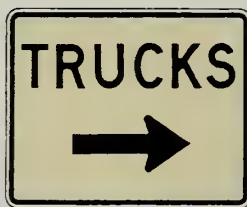
Fortunately, industrial development does not have to create undesirable traffic impacts. A comprehensive traffic plan can help municipalities choose and develop industrial sites with fewer negative consequences. Planning ahead for truck traffic is an important part of a community development program.

Traffic Management Techniques

To reduce truck traffic conflicts, local governments may adopt one of several traffic management techniques. A common strategy is to designate a preferred truck route, using an advisory sign such as the one shown below. The code number beneath this sign is a reference to the Federal Highway Administration's Manual on Uniform Traffic Control Devices, known as the MUTCD.



R14-1



While use of a designated truck route is not mandatory unless trucks are actually banned on alternate roads, advisory signs encourage truck drivers to stick to the "beaten path." Truck routing signs also help drivers to avoid hazardous obstacles, such as low underpasses, on their way to shipping terminals. They are particularly helpful to drivers unfamiliar with an area.

Another strategy for reducing truck traffic conflicts involves working directly with business leaders. Community organizations may request voluntary control efforts from those companies generating truck traffic. Voluntary measures include limiting deliveries to daytime hours or limiting truck speeds on certain public access roads. While a cooperative effort may not eliminate neighborhood truck traffic problems, it can effectively reduce them.



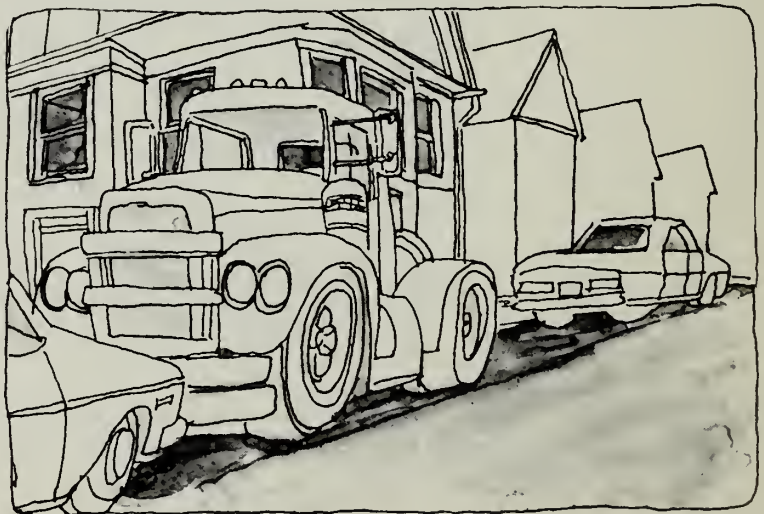
On this residential street leading to a factory, a suggested truck speed limit has been posted next to the official speed limit sign, MUCTD sign number R2-1.

Establishing a Truck Exclusion Zone

In some situations, the best option may be to exclude trucks from a residential street entirely. In Massachusetts, setting up a truck exclusion zone requires the permission of the Massachusetts Department of Public Works (MDPW). This in turn requires a study that documents truck traffic levels and justifies excluding trucks from the streets affected. The Pioneer Valley Planning Commission (PVPC) can help local governments evaluate truck traffic problems and develop strategies for dealing with them. If truck exclusion appears to be a reasonable solution, the PVPC can assist local officials in performing the required study.

Truck exclusion zones can be authorized only if a suitable alternate route is available for truck traffic. The alternate route must be wide enough to accommodate trucks and the pavement able to withstand truck traffic. In addition, if there are bridges along the route, they must provide an adequate height clearance and weight allowance for trucks.

An exclusion zone may be justified if trucks account for at least five percent of the street's total traffic and if they reduce the safety and carrying capacity of the street. Exclusion of trucks may also be warranted when pavement condition is so poor that repeated heavy wheel loads would cause severe deterioration. By law, trucks cannot be excluded from a state highway or from any main highway leading from one town to another.



Preparatory Study for a Truck Exclusion Zone

Before the MDPW will consider implementing a truck exclusion zone, the municipality must conduct a truck traffic study. This helps the MDPW to evaluate each request. Elements of the study include a traffic count, a map and description of the affected area, and a written statement as explained below.

Traffic count: A 24-hour count of all vehicles using the street to be zoned. (If the exclusion is requested for just a portion of the day, counts for the requested period are sufficient.) The traffic count must be recorded in half-hour intervals and show both the number of heavy trucks (2 1/2 tons or over) and other vehicles. Worksheets and instructions for taking traffic counts are available from the PVPC.

Map: A map of the area with the street to be excluded marked in red and the route which will serve as the alternate truck route marked in green.

Description: Detailed physical characteristics of the excluded and alternate streets. This should include length, width, type and condition of roadway surface and sidewalks. The description should also include the types of traffic control existing on the street, the type of building or property abutting the street, and zoning characteristics.

Written statement from municipal officials as to the need for the exclusion. The statement should specify the hours the exclusion will be in effect.

After completing the required study, municipalities submit their requests for exclusions to the appropriate MDPW District Office. The District Office then makes a recommendation to MDPW headquarters in Boston. The recommendation is usually adopted unless there is a problem: for instance, if the alternate route indicated is not considered suitable.

Implementing a Truck Exclusion Ordinance or By-law

After MDPW approves a truck exclusion regulation, the municipality must publish it in a general circulation newspaper before it becomes effective. The following sample regulation is provided in Section 7-20 of the Massachusetts Manual on Uniform Traffic Control Devices:

"1. The use and operation of heavy commercial vehicles having a carrying capacity of more than 2 1/2 tons, are hereby restricted on the following named streets or parts thereof, and in the manner outlined and during the period of time set forth."

"2. Exemptions--Part 1 of this Section shall not apply to heavy commercial vehicles going to or coming from places upon said streets for the purpose of making deliveries of goods, materials, or merchandise to or similar collections from abutting land or buildings or adjoining streets or ways to which access cannot otherwise be gained; or to vehicles used in connection with the construction, maintenance and repair of said streets or public utilities therein; or to Federal, State, Municipal or public service corporation owned vehicles."

The Commonwealth of Massachusetts
DEPARTMENT OF PUBLIC WORKS
100 NASHUA STREET, BOSTON



City or town.....Yourtown.....
Date.....Dec.....29, 1985 Permit No. E 99.....

HEAVY COMMERCIAL VEHICLE EXCLUSION
TRAFFIC REGULATION PERMIT

Under authority of Chapter.....8.....Section.....7B.....of the General Laws, Tercentenary Edition, the Department of Public Works, hereby approves the.....order.....made by the.....board of selectmen.....of.....Yourtown.....on.....Sept. 27, 1985.....with such stipulations and exceptions, if any, as are noted herein.

The validity of this permit is contingent upon the conformance of the signs, erected or used in connection with this.....order....., with the standards prescribed by the Department of Public Works.

All signs posted must conform to the standards adopted by the MDPW and found in the Manual on Uniform Traffic Control Devices. Either a pictograph or message-type sign may be used, as depicted in the examples below:



R5-2



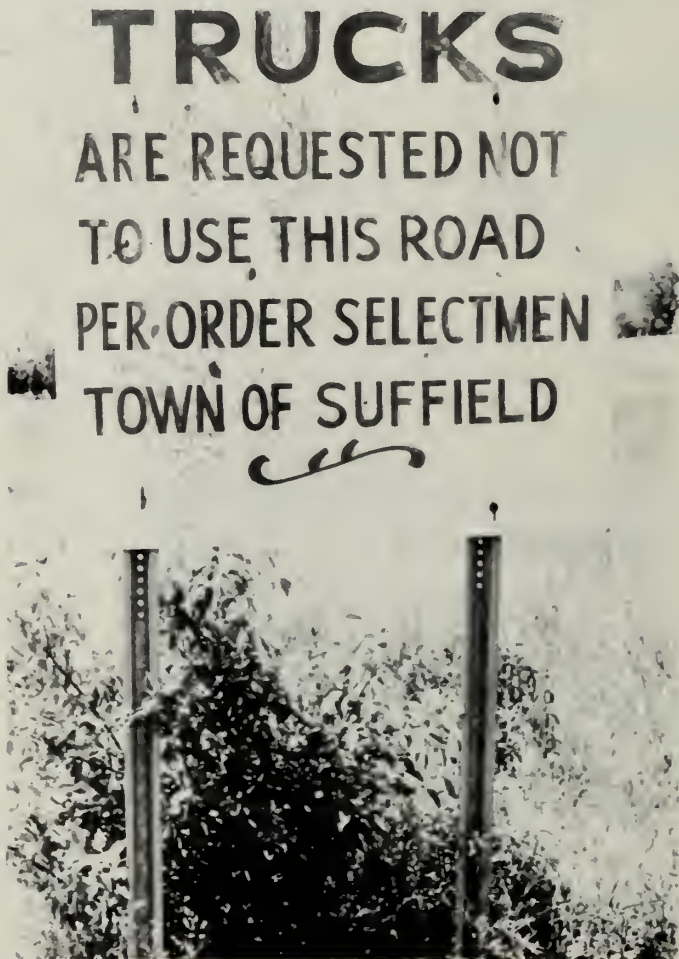
R5-4



R13-1

Enforcing the truck exclusion zone is a local responsibility. Use of the excluded streets by a heavy vehicle (other than exempt vehicles or those owned by residents) constitutes a traffic violation which may be subject to a fine.

In the event a restrictive ordinance is not approved by the MDPW, the municipality may seek voluntary control measures from plant managers, trucking companies, or any other party responsible for the truck traffic in question.



This non-standard sign is advisory only; it is not legally enforceable.

Managing Truck Traffic: Municipal Examples

The following three examples illustrate a range of local responses to truck traffic problems. Although details have been changed, the examples are drawn from actual situations throughout Massachusetts.

Town X: Were Trucks Really the Problem?

In 1984, residents of Town X were concerned about what appeared to be heavy truck traffic on Route 508 near an elementary school. A serious accident involving a student had occurred there and town officials wanted something done.



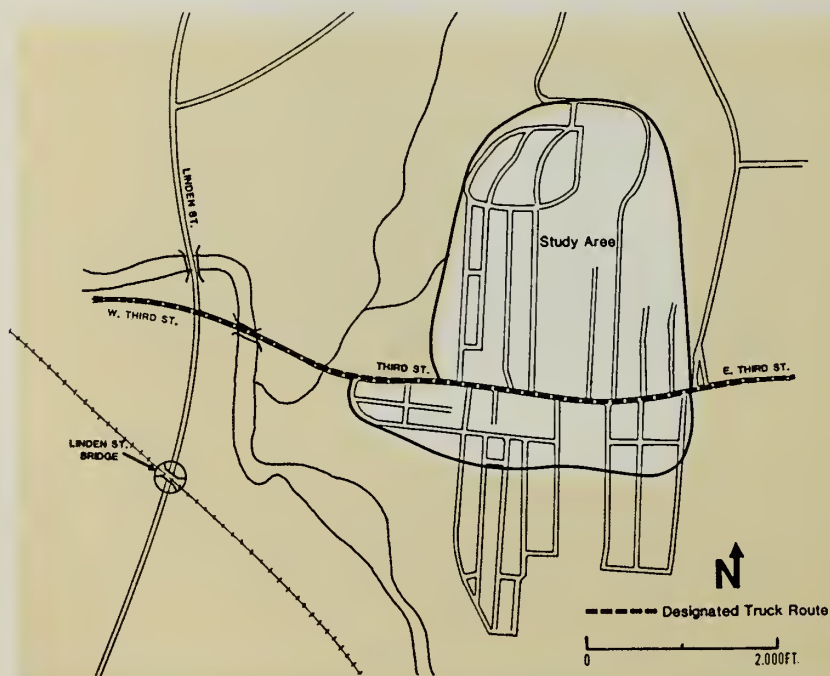
A comprehensive study of a half-mile stretch of Route 508 showed that truck traffic was only slightly higher than on other similar roads in the region. Further, no reasonable alternate route was available for truck traffic. Route 508 was the main route connecting Town X with neighboring communities and it also connected two interstate highways.

However, the study revealed significant hazards other than truck traffic: a dangerous curve with poor visibility and worn pavement markings, and conflicts between through traffic and left turning vehicles at Maple Street.

The study suggested low cost improvements that would provide better visibility along the curve, including pavement edge lines to help drivers avoid the soft, narrow shoulders. Installation of an "INTERSECTION AHEAD" sign was also recommended to encourage motorists to slow down as they approached Orchard Road. Finally, the study showed that adding a traffic signal to the intersection of Route 508 and Maple Street would help reduce accident risks for motorists and schoolchildren. These general improvement measures, rather than any aimed specifically at truck traffic, were judged to be the best response to the safety problems experienced in Town X.

Town Y: Few Alternatives

In 1982, Town Y requested assistance with truck traffic problems in the vicinity of Third Street. Third Street was the designated truck route serving a primarily industrial area. However, to make deliveries, trucks had to pass through several residential streets to the north and south:



The resulting noise and vibration disturbed neighborhood residents. Several years before, Town Y had enacted an overnight trucking ban on Third Street to cut down on nighttime noise. The ban was in effect from 10 p.m. to 6 a.m. Residents, however, remained concerned about the noise and safety problems that continued during the daytime.

Town officials knew that most of the trucks on Third Street were there to make pickups and deliveries at local plants and stores rather than traveling through. However, they wanted more detailed information on where the trucks were coming from and when the activity reached its peak. The town officials thought this information would help them to work out an agreement with Third Street businesses to limit trucking activity to a specific time of day. Alternatively, local officials felt they could seek the cooperation of business managers to avoid routing trucks over the most sensitive residential streets.

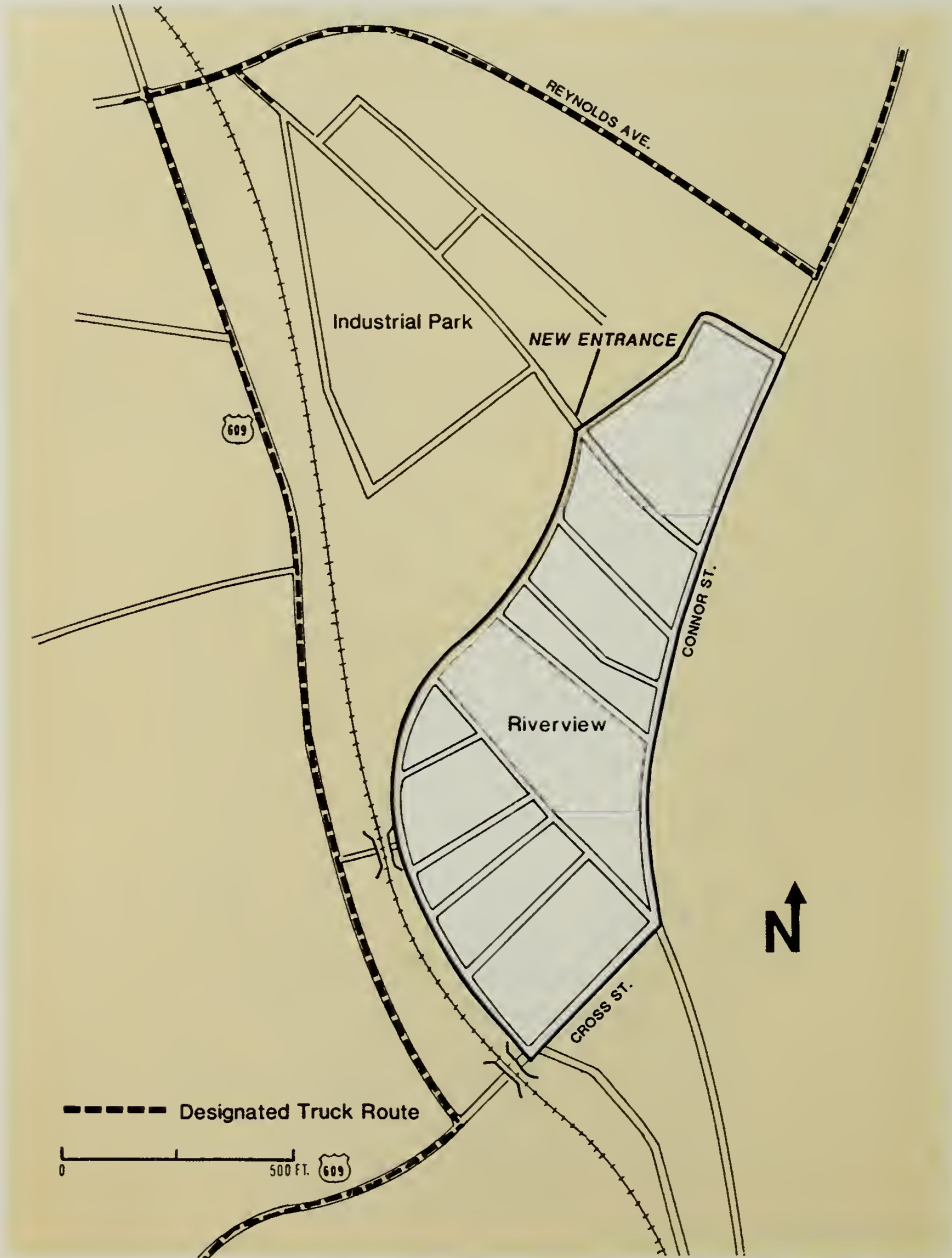
Finally, community leaders had long proposed that the town raise a low railroad bridge at Linden Street from its present restrictive clearance of 10 feet. This change would provide an alternative, non-residential access route for trucks seeking an entrance to Third Street.

To pinpoint truck origins and destinations by time of day, planners conducted a survey of truck travel patterns at four locations. The survey confirmed that there were few alternatives to the truck routes currently being used. The study also showed that very few trucks entered Third Street from the southwest. Therefore, raising the Linden Street Bridge, which had seemed an attractive proposal, was in fact unlikely to divert significant truck traffic away from the residential neighborhoods. In fact, this action would have proved an expensive investment with marginal benefits at best.

In addition, the study suggested a new alternative for long-range consideration. Study results verified that trucks were clearly avoiding the eastern portion of Third Street, which was narrow and in poor condition. Improvements to this section could ease the flow of truck traffic and draw off at least a portion of the West Third Street traffic. For this reason, the planning team recommended zoning by-laws to provide greater set-backs on future construction or reconstruction along Third Street. This might allow the street to be widened in the future. Local officials also considered revising Town Y's growth policy to limit future development in the Third Street neighborhood.

City Z: Setting Up a Truck Exclusion Zone

In the Riverview neighborhood of City Z, residents voiced concerns about truck traffic similar to those in Town Y. The neighborhood was mostly residential, but a growing industrial park to the northwest had brought increasing numbers of trucks into the Riverview area.



The most obvious way into the industrial park was via Route 609 and Reynolds Avenue, rather than local streets; however, increased congestion along Route 609 and several traffic lights made it attractive for truck drivers to cut through the Riverview neighborhood. Residents feared the situation would get worse since the industrial park was soon to open a second entrance bordering directly on residential streets.

Because trucks had a clear alternative to using residential streets, neighborhood organizations proposed establishing a truck exclusion zone. The zone would cover all of the streets which filtered into the industrial park's second entrance. The City Council responded by drafting an ordinance excluding heavy commercial vehicles from seven street segments at all times of the day. Exceptions were made for local deliveries and for utility and construction vehicles.

City Z officials then collected the required traffic counts and other supporting data. The information was sent to the MDPW District Office, along with a copy of the proposed exclusion ordinance. MDPW approved the ordinance two months later, and "NO TRUCKS" signs were posted in time for the opening of the new industrial park entrance.



Assessing Truck Traffic Problems In Your Community

Before attempting to designate a truck route or exclusion zone, it is important to determine the nature and severity of the problem your community is experiencing. Characteristics of the "truck problem" may include a high volume of truck traffic (either all day or during a particular time), trucks idling while parked, or excessive truck speeds, among others.

In many instances, problems that appear to be caused by a high volume of truck traffic are in reality problems that affect all traffic, such as poor pavement condition or flaws in the original design. Alternatives to establishing truck exclusion zones should be explored first. For example, when trucks begin using residential streets to avoid rough pavement on the major street, roadway repair may be the most appropriate solution. Similarly, imposing a weight limit may be the best way to protect a weak or impaired roadway from further damage by trucks.

In addition, it is useful to consider in advance what consequences a proposed measure will have for the street system in general. Will the measure be effective, or will truck traffic simply shift to another residential neighborhood? In some instances, unintended effects of a truck restriction may be worse than the original problem. If truck drivers have a good reason for using a residential shortcut--such as avoiding a highly congested intersection--local officials should be aware of this before taking corrective action. Occasionally, a shortcut has the side benefit of keeping truck traffic down at a problem location. In such a case, by concentrating trucks at one key intersection, a restrictive ordinance could actually increase traffic delays and hazards, rather than reducing them.



R2-1



R2-2



R12-3



There are also a number of situations in which restrictive ordinances are inappropriate. First, trucks cannot legally be excluded from a state highway or a main highway connecting two municipalities. Trucks making deliveries and pickups in the affected area must be exempted from the restriction. Community leaders should also be aware that residents may have a right to park heavy vehicles in their possession on their own premises, and to use local streets for access, depending on local zoning regulations.

The following three steps form a general procedure for evaluating truck traffic problems:

1. *Determine the nature of the problem.* This step could include a brief test count of all vehicles on the road, with heavy trucks recorded separately from other vehicles. Check the condition of the road's surface, and look for general flaws in roadway design-- operational conditions or hazards which may affect all traffic.

2. *Analyze alternatives.* Is a reasonable alternate route available to truck drivers? Is the affected road a state highway, or the principal route connecting two neighboring municipalities? Determine whether most trucks are stopping along the route on business, or simply using it as a shortcut. If the route appears to be a shortcut, consider whether there are legitimate reasons--other than saving time--for trucks to avoid the main roads.

3. *Consider the range of impacts* proposed improvement measures could have. If a restrictive ordinance or by-law is suggested, what effects will it have on other residential streets and on traffic flow at major intersections? Are local resources available to enforce the ordinance?

Truck Traffic Planning

There are several reasons why municipalities may choose to develop a truck traffic management plan. One is to resolve longstanding problems in residential neighborhoods, such as night-time truck noise or hazards resulting from unnecessary short-cuts. Another is the desire of local governments to prevent significant traffic impacts associated with industrial development. A truck traffic study can be done on a stand-alone basis, as part of a more comprehensive traffic study, or in conjunction with a community growth plan.

For Further Information

The PVPC can provide technical assistance to local governments interested in developing truck routes, exclusion zones, or other measures designed to minimize truck traffic problems. With expertise in traffic planning, community development, and the environmental impact analysis of development sites, the PVPC can help member communities analyze local problems and, if necessary, design a study process to address them. Depending on the circumstances, and with advance notification, the PVPC can also arrange to conduct a traffic study, analyze the results, and develop a plan of action with the involvement of local officials, residents, and business leaders.

The PVPC also assists municipalities and organizations to predict the traffic impacts of proposed industrial developments. This assistance can include an independent review of impact statements prepared by or for public and private developers. In addition, the PVPC's transportation planning services encompass transit and rail service analysis, small area parking studies, and spot analysis of problem intersections. If you would like more information on how the PVPC can assist your community, please contact the PVPC at the the number listed below.



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This brochure was prepared in cooperation with the Massachusetts Department of Public Works and the U.S. Department of Transportation, Federal Highway Administration.

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